

# Introduction

## What is hunger?

According to the Food and Agriculture Organisation of the United Nations (FAO), people are said to be suffering from chronic hunger when their food intake regularly provides less than the minimum energy needed for a healthy body and an active life.

## Hunger has many facets

*Hunger*

*... is largely man-made:*

- no access to resources*
- no access to markets*
- land-grabbing*
- industrial agriculture*
- food speculation*
- over-consumption and waste*
- wars and armed conflicts*
- natural disasters*

*...has fatal consequences:*

*impacts on both the human body and society:*

- *headaches, dizziness, sleeplessness, poor concentration and performance, listlessness, and even depression*
  - *hair loss, slower healing of wounds, diminished sight*
  - *a weakening of the immune system that can lead to infections and diarrhoea, which are often fatal, especially in children*
  - *a decrease in heart muscle mass, cardiac dysrhythmia, death caused by a weak heart*
  - *inflamed joints, disturbance of bone growth, stunted growth possible in children*
  - *hearing impairment, speech disorders, reduced mental development*
- ➔ *If the performance of a person suffering from hunger is such that that person becomes listless, then hunger has an impact on society too.*

*... Approaches to combating hunger:*

- emergency aid and advice (→ Niger)*
- sustainable food security and diversification (→ Bangladesh)*
- securing access and rights (→ Paraguay)*

The issue of hunger has many different facets and dimensions. It can also be viewed from a number of perspectives. It is not possible to exhaustively address all aspects of this issue in a policy document for the Lenten Campaign. Nor would it be worthwhile doing so.

Since being established in 1958 as an agency to fight hunger and disease in the world, MISEREOR has always focussed heavily on the issues of hunger and food security. For this reason, this article highlights the aspects of hunger and information about hunger that play a key role for MISEREOR and shape the agency's work, not only with regard to the projects it selects, but also to MISEREOR's policy approach to development and the theological, spiritual background to its commitment to standing by the poor.

The first section of this policy document presents the factors that—from a development policy perspective—lead to hunger. It also shows ways of breaking out of these structures.

Leading on from this, a report from Bangladesh describes the concrete challenges that people affected by hunger have to face.

## **I Hunger is not a natural catastrophe; hunger is man-made**

Contrary to what media reports often lead us to believe, the main causes of hunger are not natural disasters or armed conflicts. Only a relatively small proportion of hunger is caused by these two factors. Similarly, hunger is not primarily a consequence of insufficient food production around the world. Hunger is above all the result of structural injustice. The global economic system and political framework is such that almost one billion people on our planet do not have access to sufficient food and a balanced diet.

### **Neglect causes hunger**

Approximately 80 per cent of the world's hungry live in rural areas; 50 per cent are farmers, 22 per cent are landless or are agricultural labourers, and 8 per cent are fishermen/women and shepherds. The remaining 20 per cent live in urban areas. These people do what they can to produce food for their families and eke out a living in incredibly difficult conditions. If they do own land, they generally own very little and the soil is often of a very poor quality. They have little or no access to advice, loans, and input such as water or seeds. Infrastructure in rural areas is also poor: there is no electricity or drinking water; there are no sanitary supplies, schools, and hospitals; and roads are either non-existent or poorly equipped. This situation has got even worse in many countries over the past 30 years because governments and international organisations have slashed their investment in rural areas. Politicians in developing countries have always given precedence to an urban-dominated development over rural development. Since the 1980s, however, the neglect of rural areas has become even more dramatic. In Asian countries, spending on agriculture dropped from 14 to 7 per cent of the national budget between 1980 and 2004. In African countries, where up to 80 per cent of the population earns a living from agriculture, this figure dropped from 7 to 4 per cent over the same period. International state development aid has also largely withdrawn its support for rural development. While official financial development aid increased from US\$7 billion in 1980 to US\$27 billion in 2006, the proportion of money being channelled into the agricultural sector decreased from 20 to 4 per cent. In addition, instead of supporting production by small farmers, national and international agricultural policies focused primarily on promoting an export-oriented, industrial form of agriculture. Although politicians have in recent years increasingly acknowledged the role played by small farmers in combating hunger, effective support for these farmers remains a low priority. In view of how important small farmers are for feeding the world's population, this remains a very critical state of affairs. After all, despite the difficult conditions in which they have to work, it is still small farmers and other small food producers who feed the world. It is estimated that 50 per cent of food is produced by small farmers, 12.5 per cent comes from hunting and gathering, 7.5 per cent from urban agriculture, and only 30 per cent from industrial production.

### **Land-grabbing causes hunger**

The distribution of land in most developing countries is very uneven. Big landowners own most of the arable land, while countless small farming families have to divide the rest—most of which is of poor quality—among themselves. About 90 per cent of the

525 million farms around the world are small farms with less than 2 hectares of land. In the past, the main reasons for this uneven distribution of land were feudal or colonial land ownership and the extension of an export-oriented agricultural sector. However, since the world food price crisis of 2008, the pressure on land as a resource has intensified once again in a dangerous manner. After decades of falling world prices for agricultural products, prices have been rising sharply since 2008. The reasons for this are above all the growing demand for food and animal feed, the increased use of biofuels, and the resulting competition between the 'petrol pump' and the 'plate'. These factors and the insecure state of the global economy have made major investment in land attractive. Transnational corporations, financial speculators, and the governments of rich states are buying up vast swathes of fertile land in order to produce animal feed for livestock, energy crops for biofuels, or food for their own people. As a result, small farming families are often driven off their land and lose the basis of their livelihood. Over 200 million hectares of land, above all in poor countries, have become the target of major agricultural investment in recent years. That is the equivalent of an area the size of western Europe. According to the World Bank, an average 4 million hectares of land was either bought or leased every year by major investors prior to 2008. Since then, large-scale acquisition of land has increased more than tenfold to 45 million hectares of land per annum. That's the equivalent of an area the size of Germany and Austria together—every year. This development makes it harder for locals to access land and more difficult for small farmers both to feed themselves and to grow their business as well. It also poses a threat to the food security of the entire population in the affected countries because food for the local supply chain is not generally produced on the plantations of large investors, but instead products for export such as soya for feeding cattle in Europe and China or oil palm and sugar cane for the production of biofuels.

### **Industrial agriculture causes hunger**

The term 'industrial agriculture' is above all associated with mass production and large-scale farming operations. The term 'green revolution' was coined for the introduction of 'modern' production methods (high-performance seed, mineral fertilisers, pesticides, artificial irrigation) into the agricultural sector in developing countries. Above all in Asia, the 'green revolution' has been heavily promoted by national governments and international organisations since the 1960s. The intention was that high-yield harvests would ensure sufficient food for the people and would combat poverty. For over 50 years now, the large-scale industrialisation of agriculture in North and South America, Australia, and Europe as well as the 'green revolution' in Asia have boosted productivity to impressive levels. The ecological and social price paid for this productivity has, however, been very high. Industrial agriculture is responsible for approximately 20 per cent of all global greenhouse gas emissions. It leads to soil destruction and erosion, soil salinisation, overuse and pollution of water reserves, and a loss of biodiversity. It also consumes a huge amount of energy for production, processing, and transportation. Nevertheless—and this is the most important point—this agricultural model does not give everyone sufficient access to food. In terms of calories, enough food is currently being produced to feed the world. In 2007, 2,796 kilocalories were available per person per day. If the calories lost after harvesting and as a result of the processing of food into animal feed are also taken into account, this figure rises to as much as 4,600 kilocalories per person per day. And yet, about one-sixth of the world's population goes hungry. These figures make it clear that it is not enough to simply increase the global production of food in order to ensure that everyone in the world has enough to eat. If the hungry remain shut off

from the food that already exists, an overall increase in production will be of little use. In view of the fact that—as already explained above—most hungry people are actually neglected farmers, production should be increased in this sector. Industrial agricultural methods do not help here because they are not tailored to meet the needs of these farmers.

The transfer of industrial production methods to farming operations only works for larger farms and for financially secure farmers or in those cases where hybrid seeds, fertilisers, and pesticides are subsidised by the state. For countless small farmers in developing countries, the 'green revolution' has meant them entering a vicious circle of dependency on agricultural and chemical companies that can lead to debt or even the loss of their land. So instead of eliminating hunger, the 'green revolution' has in fact contributed to unemployment, poverty, and the spread of hunger. Despite these experiences, a lot of agricultural policy concepts and programmes are currently supporting a 'new green revolution', in many cases in conjunction with the agroindustry. This includes, among other things, the spread of genetically modified seed.

<b>Industrial agriculture</b>	<b>What small farmers need</b>
Capital-intensive high-tech solutions that have to be bought in from outside and at prices that are liable to increase	Inexpensive techniques that build on local expertise and are easy to apply
A high dependency on external input	As little external input as possible (low-input agriculture)
Reduction of the workforce (rationalisation)	Methods that are adapted for manual labour and small areas
Large-scale monocultures	Small, varied production systems

It is often difficult for us here in Germany and in Europe to understand why the industrial agricultural model, which at first glance would appear to have helped us achieve food security and prosperity so successfully, should not work for developing countries. In order to understand this better, it is important to remember that our industrial agricultural sector is highly subsidised. Without such massive public support, it would not be able to produce food cheaply. Moreover, the industrialisation of agriculture has led to a massive 'structural change' or closure of farms. In 1949, there were about 2 million farms in the Federal Republic of Germany (West Germany). In 2007, there were only about 343,000 in what used to be West Germany and 374,000 in re-unified Germany. More than three-quarters of all farms had been closed down. The vast majority of the farms that still exist are only operated on a part-time basis. This downward trend continues. At the same time, the average agricultural operation is growing in size. More than half of farms now have over 100 hectares, which means that they can be classed as large farms. There were about 20 per cent fewer farms in the EU in 2010 than there were in the year 2003.

Our economic structures were and (still) are in a position to absorb workers who were made redundant in the agricultural sector. In developing countries, however, there are hardly any alternatives to agriculture; in most cases, over 50 per cent of the population depends on agriculture; in many African countries, this figure can even be as high as 80 per cent. A comparable closure of farms would, therefore, lead to unemployment on a vast scale and even more poverty and hunger. Finally, it should also be taken into account that a transfer of our agricultural and development model to the entire world would push the environmental capacity of our planet over the edge.

### **Climate change and hunger**

Because of climate change, the number of people at risk of hunger is likely to be between 10 and 20 per cent higher than it would be without climate change. The frequency and intensity of extreme weather conditions such as torrential rain, hurricanes, heat waves, and periods of drought are increasing. For farmers, this means crop failure. The poorest of the poor are hit hardest by this because they have hardly any savings or social security. Adopting industrial agriculture methods (e.g. monoculture, high-performance seed) often makes farms more susceptible to such crises. The seed varieties developed by seed companies and research institutes—and consequently the associated cultivation methods—have not been adapted to the prevailing local conditions and often require optimum environmental conditions to ensure good yields. In such cases, any extreme weather conditions pose a threat to the harvest. This is why it is important to revive farmers' skills in adapting their seeds and cultivation methods to changing environmental conditions, to encourage them to use these skills, and to help them and give them the opportunities to do so.

### **The world market causes hunger**

The industrialisation of agriculture goes hand in hand with an industrialisation and globalisation of the entire food chain. Over the past 30 years, economic policy has facilitated this development by fostering the liberalisation and deregulation of markets. The idea behind this economic policy is that goods are produced wherever it is most efficient to do so. Countries should export whatever they produce most efficiently and import those products that can be produced less expensively in other countries. In theory, by making the most of 'comparative cost advantages', goods and services can be made available more cheaply, which means that at the end of the day, everyone has more money at their disposal. In practice, however, this economic policy has led both to a growing gulf between rich and poor and to more hunger. In the agricultural sector, it is the major transnational agricultural corporations that benefit most from open markets. They are best equipped to do business at global level. Increasingly, corporations are dominating not only a specific product area, but entire product chains. The US company Cargill, for example, not only controls a quarter of global trade in maize, it also plays a huge role in the production of poultry all over the world and runs businesses in the corresponding logistics (maritime transport, storage) and services (loans and insurance) sectors. The biggest Asian agricultural corporation, Charoen Pokphand Group (CP), is active in many fields including livestock farming, fruit and vegetables, and cereals and animal feed. It also runs supermarkets and fast food restaurants. Small farmers are of little interest to this industry, either as suppliers or as customers. They are the big losers of an agricultural policy that focuses on the world market, fosters an export-oriented agricultural sector, and penalises the production of food for the local population. In fact they are losers twice over because liberalised markets also allow for the import of cheap products that compete with their produce. This competition is usually very unfair because the imported products are often produced by heavily subsidised, industrial agricultural sectors in richer countries. Neglecting farmers who produce for local markets in favour of an agricultural and food security policy that is focused on the world market has led to a strong dependence on food imports in many developing countries. Many of the world's poorer countries in particular—especially African countries—have increasingly become net food-importing countries since the early 1980s. The dramatic increase in the number of hungry people to over one billion in

2008 in the wake of the drastic increases in food prices on the world market made it clear how disastrous such a dependency on the world market is.

### **Speculation causes hunger**

Food speculation intensifies the new tendency towards high food prices, which aggravates hunger in developing countries that are highly dependent on imports. Before the year 2000, major investors in the financial sector played only a minor role on commodity futures exchanges for agricultural raw materials. Speculative trade in expected future food prices was a niche for a select group of experts. In the meantime, however, trade on the commodity futures exchanges has been deregulated following pressure from the financial lobby. This led to a relaxing of existing restrictions or their removal. As a result, the volume of futures contracts being traded on international raw materials exchanges has rocketed. Now, a wider spread of investors is investing in raw material funds and raw material derivatives. Rising food prices means big profits. Between 2003 and 2008, investment in the two biggest raw material index funds exploded, rising from US\$13 billion to US\$317 billion. Speculators are now in the majority on the commodity futures exchanges. This means that raw material markets are no longer primarily driven by supply and demand in the real economy. Today, it is above all the laws and the interests of the financial markets that shape price development.

Investors are putting virtual sacks of wheat in their cellars so that they can sell them for large sums of money at a later date. In this way, they are creating an artificial demand that leads to even higher prices and price instability. The major German banks are also involved in this speculation. In 2011, they invested food-price linked assets worth €11.4 billion. For those developing countries that rely on imports, where poor people spend up to 80 per cent of their income on food, this is a disastrous development. When food prices rose again in 2010/2011 after the crisis in 2008, 44 million more people went hungry.

### **The trade in raw materials on the futures exchanges**

Raw materials such as wheat, maize, soya, sugar, orange juice concentrate, meat, or cocoa are traded in two basic ways. 'Spot trading' is the term used when ownership of the goods is transferred at the moment of trade. In the case of futures trading, on the other hand, the delivery and the payment of the raw material is postponed until X, a specified future date. Here, it is important that the price and amount of the traded goods are specified at the time the futures contract is concluded. Futures contracts do not in fact have to result in the physical delivery of the goods at the future date. For this reason, futures contracts can also be viewed as 'price bets' where one bets either that the price will rise, by committing oneself to buy goods in the future at the current price ('long'), or that the price will fall, by committing oneself to sell goods in the future at the current price ('short'). Only 2 per cent of all futures contracts actually result in the physical delivery of the goods. The remainder are offset prematurely. However, the offset of these positions at the end of the specified period does not result in a fall in prices as one might expect, because the money that is freed up in this way is immediately re-invested in a new raw material contract with a longer term. This is known as a 'roll-over'.

### **Over-consumption and waste cause hunger**

Here in Germany, we live in an affluent, throw-away society. The same can be said of the middle and upper classes worldwide. If everyone lived like us, we would need 2.8 earths. Our consumer behaviour goes hand in hand with the unjust distribution and

waste of resources such as land and water. The land used in developing countries to meet the needs of our consumption patterns are no longer available for the production of food to meet local needs. For example, there is a direct link between our meat and energy consumption and hunger around the world. We not only use resources to which we are not justifiably entitled; we also waste them. In theory, all hungry people on earth could be fed by the amount of food that we throw away in Europe. Because so much food ends up in the bin instead of on our plates, land, water, and other production resources are wasted. Another indicator of over-consumption by the affluent citizens of this world is the number of people who are either overweight or obese. Today about 1.5 billion people around the world are overweight. Among other things, this is related to our growing consumption of meat and the growing spread of 'fast food'. However, it is not only the consumers who are to blame for these patterns of consumption, for a lack of regard for food, and for a lack of knowledge about food and where it comes from, all of this is promoted by the industrial system of production and sales. In this system, food is just a commodity. Food is bought where it is produced least expensively. It has a standardised appearance and is available everywhere and at all times in increasingly globalised supermarkets. The shelves are always full and there is a growing number of processed and semi-processed produce. Moreover, advertisements do not reflect the reality of production conditions. This means that food production and food consumption are becoming increasingly decoupled and alienated from each other.

### **Radical change is necessary**

As already mentioned above, hunger is first and foremost the result of structural injustice. Existing economic and political structures are pushing part of humanity onto the fringes of society, thereby creating hunger. The paragraphs above clearly show that it is above all production and consumption patterns in the agricultural and food sectors that cause hunger. For this reason, a radical change in these production and consumption patterns is the most important prerequisite when it comes to combating hunger. In order to make sure that this change can be made, basic political and economic conditions must be shaped in such a way as to give priority to farming and the supply of local markets over the industrial and global market-focused agriculture and food model.

- Public investment in agriculture should be increased again and designed in such a way as to ensure sustainable production on farms.
- Land reforms should be implemented.
- Trade rules should promote local markets and regional economic cycles.

In order to ensure that such changes have a chance of succeeding, it is important that those people who are affected by hunger (e.g. small farmers, the landless, indigenous people) participate in the political decision-making processes and the development and shaping of the agricultural and food system of the future. An important key word in this context is 'food sovereignty'. This term was coined by the international association of small farmers, Via Campesina, at the World Food Summit in 1996. Ever since, it has been adopted and refined by many social movements the world over. The concept of food sovereignty entails, among other things, the following concepts: that different population groups have the right to healthy, culturally adapted food; that food is produced in an environmentally friendly and sustainable manner; that priority is given to local markets; and that those who produce food play an active role in the shaping of food policy. MISEREOR supports this vision of an alternative

agriculture and food system. For many years now, we and our partners have been promoting 'sustainable agriculture'. What we mean by this is that agriculture should

- be the realm of farmers and families;
- be based on agroecological cultivation methods that use only a small amount of external input;
- be based on the knowledge of farmers and should enhance and develop this expertise;
- focus on the ability of farming families to feed themselves and supply their local markets.

In the meantime, a series of well-founded, scientific studies demonstrates that sustainable farming has the potential to secure food for the world. The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) is the most comprehensive, up-to-date overview of the state of global agriculture. It concludes that the greatest scope for improving livelihoods and justice is to be found in the various, small production systems in developing countries. The experience that MISEREOR has gained in projects also shows how successful sustainable agriculture can be. In 2010/2011, 258 MISEREOR projects in the field of 'Rural development/food security' were evaluated. The evaluation showed that sustainable farming leads, among other things, to an increase and diversification of production and to an increase in the availability of food and the income of farming families.

A group of adults was asked to describe a typical meal for a schoolchild in 1996 (top line) and in 2011 (bottom line). Breakfast is shown on the right, the midday meal in the middle, and the evening meal on the left. The constituent parts of the meal were shown in pictures and in words on cards. The food eaten by schoolchildren in the village became richer and more diverse over the course of the 15 years. The biggest change in variety was noted in the evening meal. As a result of the project, more fruit and vegetables were grown in the family's garden.



These successes show the potential that can be realised through investment in sustainable farming. They also give an idea of what could happen if political and economic conditions were to stop marginalising farming, but were instead to focus on its needs and its promotion.

## **II We are fed up with hunger! A MISEREOR project in Asia fights hunger**

### **Bangladesh: small farming families fighting both climate change and hunger**

Black clouds hang over northern Bangladesh. Sentu Kumar Hajong, a small farmer, bends over and cuts a handful of stems with his scythe. Day labourers are helping him with his rice harvest.

All of Bangladesh is suffering because of climate change. It is too hot and too dry for this time of year; the grey clouds in the sky bring hardly any rain, despite the fact that the monsoon should long since have flooded the fields. Hajong's rice harvest is meagre. What's more, because it is so dry, he has not yet been able to plant the next season's seeds. Because many farmers in the 1960s believed the promises of the 'green revolution', which was supported by the government and the rice research institute, and agreed to cultivate rice in monoculture and to buy seed, artificial fertiliser, and pesticides from large companies, this meagre harvest hits them very hard. Suddenly, the knowledge about traditional mixed farming methods and local rice varieties handed down to them by their parents was no longer worth anything. Today, the soils are depleted and do not yield enough to feed everyone. For this reason, families have to buy rice. Rice and other foods are getting more expensive, and many people can only afford between one and two meals a day.

Despite the dry weather, Hajong and his family are doing a little better than the others, who have to sell their livestock and lease their land in order to make ends meet. What has helped Hajong, a devout Hindu from the Hajong ethnic group, is the fact that he has been involved in a project organised by Caritas Bangladesh, a MISEREOR partner, for five years now. In this project, he has re-learned sustainable agricultural methods. This support is aimed in particular at ethnic minorities in this region, which borders India.

#### **A brief introduction to Bangladesh**

Bangladesh is one of the poorest and one of the most densely populated countries in the world. Approximately 149 million people live in this country, which is approximately twice as big as Bavaria and is situated on the Bay of Bengal. The per capita income in Bangladesh is US\$690 per annum. About one third of the population lives below the poverty line. Almost half the population can neither read nor write. Forty per cent of children under the age of five are malnourished.

Farmer Hajong is one of the lucky ones. Despite the fact that he also suffers from the effects of climate change and dry weather, his village is situated in the highlands, which means that it is spared the flooding that covers the massive river delta and makes large parts of the country uninhabitable. Bangladesh is a country plagued by disasters. Tropical storms also turn people into internally displaced persons.

Three-quarters of the population live in rural areas, and every second person in Bangladesh (both women and men) works in agriculture. Many people are small farmers like Hajong or migrant workers or day labourers like those helping him with the harvest. Rice is the most important agricultural crop and food staple in Bangladesh, followed by jute and wheat. The continuous rise in the price of rice and other foodstuffs is partly due to poor harvests and rising rates of inflation and partly due to price fluctuations on the world market. Only a small part of the population

benefits from the economic growth of recent years, which has been fuelled by cheap textile exports around the world and money transfers from Bangladeshi migrant workers abroad.

### **Sustainable help towards self-help for ethnic minorities**

With his family of six, Hajong lives in Chatkia, a village of 400 people in the north of the country.

For a while now, he has been trying his hand at being an organic farmer. He learned about sustainable agriculture in workshops organised specially for ethnic groups living in the Indian border region by MISEREOR partner Caritas. The agricultural engineer Sirajul Haque, who works with small farmers at Caritas, knows their fears and worries: 'Minority groups have no rights in Bangladesh. Their land was taken away from them and they were forbidden to practice their traditions and speak their language even though they have been living here and working the land for centuries,' says Haque. The reason for this is closely linked to the history of the country.

Up until 1947, Bangladesh was part of British India. At the end of the British colonial era, the subcontinent was divided up into Hindu India and Muslim Pakistan, to which Bangladesh also belonged at the time. The Christian and Hindu minorities abandoned their land and fled to India. In 1964, serious fighting broke out between Muslims and Hindus; once again, the minorities fled. After the war of independence, Bangladesh split from Pakistan and became an independent country in 1971. Although many minorities returned, other people were now living on their land.

Since 1999, Caritas has been supporting minorities. Since 2005, it has been working with 22,000 small farming families in over 500 villages. Caritas strengthens their social, economic, and cultural ties and helps them fight for their land rights, uphold their traditions, and ensure food security. Haque explains why that is so important: 'As a result of the high-yield varieties that have been cultivated in Bangladesh since the 1960s, the farmers have lost their seeds, their independence, and their self-confidence. Suddenly, everything they had learned about agriculture from their parents and grandparents was no longer worth anything. Instead of storing up seeds and deciding which seeds they would breed, they had to buy high-performance seed, artificial fertilisers, and pesticides.'

Haque and his colleagues organise workshops and seminars for the ethnic groups and show the small farmers how to breed and cultivate rice and how to store the seeds in earthenware pots without electricity and refrigerators so that they do not spoil. The farmers supported by MISEREOR's partner now plant over 100 local varieties of rice that are much more robust than the modern high-yield varieties. They also spread the risk: if one variety becomes infested with pests, the entire harvest is not at risk. The farmers exchange seeds among themselves, just like their ancestors did before them, and have even learned to cross traditional varieties and, in so doing, to breed their own varieties of rice. They now make their own fertilisers and pesticides using organic waste. This means that they can save a lot of money and do not need to use harmful chemicals.

With the help of Caritas, 1,200 small farmers like Hajong have made the switch to organic farming. The MISEREOR partner organisation showed them that they could plant fruit, vegetables, and spices alongside their rice, grow jute and bamboo, keep bees to produce honey, and breed fish in their irrigation ponds. This has made them more independent. The farmers and their families are eating more healthily and no longer have to buy food at the markets as frequently as they used to. If they have anything left over after the harvest, they can sell their surplus produce and earn some money that way.

Caritas also facilitates monthly farmers' meetings, where they can exchange knowledge and experience, pass on expertise, and discuss problems. Some 2,500 farmers have learned strategies for land use from their fellow farmers. About 3,500 farmers share their knowledge of biodiversity with each other. 'At this stage, I am more of a mediator than a teacher; and I am learning a huge amount from the farmers,' says Haque.

### **Raising young people's awareness of environmental issues**

The non-governmental organisation BARCIK also works with small farming families in the north of Bangladesh. BARCIK, another MISEREOR partner, supports the switch to sustainable agriculture and strengthens farmers and their families in the fight against climate change. Their programme coordinator, the agricultural scientist Alam Touhidul (39), is certain that only the cultivation of many different plants will maintain the balance of nature. 'If we lose this biodiversity, our children and the following generations here will not survive,' he warns. For this reason, working with young people is a priority area for BARCIK: 'they are the future of our country; they have to understand and protect the environment,' says Touhidul emphatically.

This is why BARCIK sends students and volunteers from the villages around Netrakoma into schools, where they discuss environmental issues with young people. They explain to them what nature looked like in the country only a few years ago and what they have to do to protect their valuable habitat. Last year, for example, young people organised a 'Water Day', which focused in particular on the drop in the groundwater level and its consequences.

Many young people in the country cannot go to school on a regular basis. The boys have to help their parents in the fields at harvest time. The girls are often married off at the age of 15. Instead of being allowed to learn in school, their main task is to work in the home. In order to reach as many young people as possible in the project area, BARCIK organises a climate camp once a year. 'The aim is that by using photos and documentaries about the effects of climate change around the world, young people will be inspired to discuss their environment and the conditions they live in,' says Touhidul. With the help of young BARCIK volunteers, some of the young people set up a catastrophe management committee. This lobby group seeks contact with local politicians and wants to convince them to work for the environment as the young people would like them to.

Another component of the BARCIK programme are social projects in schools. The schools in the country often have badly trained teachers; there is not enough teaching material, libraries, rooms for theatre performances, and much, much more. What's more, many young people leave school early. 'Just recently, five young people from the next village moved to the capital, Dhaka,' says Touhidul. 'They want to work in the textile factories like their older brothers and sisters.' They believe that they can earn money more easily there. Through the social projects, the young people learn how to identify their own problems and those at their school, how to develop possible solutions to these problems, and how to implement them.

The work done by Caritas and BARCIK bears fruit in the truest sense of the word. Thanks to the commitment of both MISEREOR partners, both the ethnic minorities and the young people in the north of Bangladesh are learning that their environment is precious and has to be protected and preserved and that with the switch to sustainable agriculture, they are taking an important step in this direction.

Five years ago, Sentu Kumar Hajong, a small farmer, cultivated only one variety of rice in his fields. He had to buy seeds, pesticides, and expensive artificial fertilisers.

Soon, the soil was depleted, and the harvest was barely enough to feed his family of six. Today, having switched to organic farming methods, several local rice varieties that he bred himself are flourishing. Pumpkins, potatoes, onions, papayas and coconuts all grow on his land. He also keeps bees for honey. At last, Hajong's family can eat their fill. The organic farmer is proud of what he has achieved. He passes on his newly acquired knowledge to other farmers and swaps seed with them. In this way, the entire community benefits. Hajong recently installed a solar panel on his roof. A light bulb now hangs from the ceiling over the children's table so that they can do their homework and learn their lessons even after sunset. Hajong has also learned that just like eating enough healthy food, education is a vital building block in his children's future.